AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of forming a device isolation film in a semiconductor device, comprising ~~the steps of~~:

~~forming an active region on which ions are implanted~~ performing a first ion implantation process for controlling a threshold voltage in an active region of a semiconductor substrate;

sequentially forming a gate oxide film ~~on~~ and a polysilicon film over the semiconductor substrate;

forming a trench having a side wall to define the active region and an isolation region by etching a portion of the polysilicon film, the gate oxide film, and the semiconductor substrate;

forming a side wall oxide film within the trench by performing an oxidation process;

performing ~~an~~ a second ion implantation process into the semiconductor substrate of the active region ~~under the gate oxide film~~ beside the trench and vertically overlapped with the polysilicon film to compensate for a concentration of ~~the~~ ions implanted for controlling [[a]] the threshold voltage; and

forming an isolation structure by filling an oxide film inside the trench.

2. (Previously presented) The method of claim 1, comprising forming the side wall oxide film to perform a rounding treatment on an upper portion or a bottom corner of the trench and to increase an adhesive strength of the oxide film to be filled inside the trench, at the same time, and forming the side wall oxide film to a thickness in the range of about 50Å to 100Å.

3. (Previously presented) The method of claim 1, comprising performing the oxidation process by a dry oxidation method at a temperature in the range of about 800°C to 950°C.

4. (Currently amended) The method of claim 1, comprising performing the second ion implantation process on an active region after the oxidation process is performed by a dose of 1E 11 ion/cm^2 to 1E12 ion/cm^2 in an energy band of 10 KeV to 25 KeV.

5. (Previously presented) The method of claim 1, comprising using boron as an ion that is implanted for controlling the threshold voltage.

6. (Currently amended) A method of forming a device isolation film in a semiconductor device, comprising ~~the steps of~~:

forming a screen oxide film on a semiconductor substrate;

~~forming an active region on which ions are implanted~~ performing a first ion implantation process for controlling a threshold voltage in an active region of the semiconductor substrate;

removing the screen oxide film;

sequentially forming a gate oxide film, a polysilicon film, and a pad nitride film on the semiconductor substrate;

forming a trench to define the active region and an isolation region by sequentially etching a portion of the pad nitride film, the polysilicon film, the gate oxide film, and the semiconductor substrate;

forming a side wall oxide film within the trench by performing an oxidation process;

performing ~~an~~ a second ion implantation process into the semiconductor substrate of the active region ~~under the gate oxide film~~ beside the trench and vertically overlapped with the polysilicon film to compensate for a concentration of ~~the~~ ions implanted for controlling [[a]] the threshold voltage;

removing the pad nitride film; and

forming an isolation structure by filling an oxide film inside the trench.

7. (Previously presented) The method of claim 6, comprising forming the screen oxide film to a thickness in the range of about 50Å to 70Å by a wet oxidation method or a dry oxidation method at a temperature in the range of about 700°C to 900°C.

8. (Previously presented) The method of claim 6, comprising forming the gate oxide film to a thickness in the range of about 500Å to 700Å by performing an annealing process for 20 minutes to 30 minutes by using N_2 gas at a temperature of about 900°C to 910°C after performing a dry or a wet oxidation process at a temperature of about 750°C to 850°C.

9. (Previously presented) The method of claim 6, comprising forming the polysilicon film to a thickness in the range of about 250Å to 500Å by depositing a doped polysilicon film under a pressure of about 0.1 torr to 3 torr in an atmosphere of a PH_3 gas and a Si source gas such as SiH_4 or Si_2H_6 at a temperature of about 500°C to 550°C.

10. (Previously presented) The method of claim 6, comprising forming the pad nitride film to a thickness of about 900Å to 2000Å by a low pressure chemical vapor deposition method.

11. (Previously presented) The method of claim 6, comprising forming the side wall oxide film to perform a rounding treatment on an upper portion or a bottom corner of the trench and to increase an adhesive strength of the oxide film to be filled inside the trench, at the same time, and forming the side wall oxide film to a thickness in the range of about 50Å to 100Å.

12. (Previously presented) The method of claim 6, comprising forming the oxidation process by a dry oxidation method at a temperature in the range of about 800°C to 950°C.

13. (Previously presented)The method of claim 6, comprising performing the second ion implantation process on an active region after the oxidation process is performed by a doze of 1E 11 ion/cm^2 to 1E12 ion/cm^2 in an energy band of 10 KeV to 25 KeV.

14. (Previously presented)The method of claim 6, comprising using boron as an ion that is implanted for controlling the threshold voltage.